THE GENESEE FARMER.

Vol. IV. ROCHESTER, SEPTEMBER 6, 1834. No. 36.

Published by Luther Tucker.

TERMS.—The Farmer is published every Saturday, making an annual volume of 416 pages, to which is added a Title-page and Index, at the low price of $2,50, or $2.00 if payment is made at the time of subscribing.

☞ All subscribers must commence with the volume, Jan. 1, or with the half volume, July 1. No subscription taken for less than six months.

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THE GENESEE FARMER.

SATURDAY, SEPT. 6, 1834.

On Early Apples.

We invite the attention of FREEHOLDERS to the subject of EARLY APPLES. We believe there are yet a large number who allow one month of the summer to pass away before they have ripe fruit of this kind, *while* some of their neighbors are regaling on the *Yellow Harvest*, the *Sine qua non*, and others which ought to be cultivated in every orchard or fruit garden. The expense of young trees, is comparatively a trifle; but in many orchards there are ungrafted trees, the tops of which might be readily and profitably exchanged for those precious varieties. The present is a proper time to consider the matter; and beyond the ensuing autumn or the succeeding spring, this acquisition ought not to be deferred.

The Seckel Pear.

We agreed with our respected correspondent, immediately on reading his letter at page 193 of our current volume, that "the name of the gentleman who first cultivated the fruit," was also the *true* name of this noted pear; and consequently that his uniform practice of spelling his own name, must be the standard orthography. Unwilling to depend solely on our own recollections however, though *very distinct;* and desirous that the point in difference should be speedily brought to a close,—we wrote without delay to our obliging and intelligent friend *Daniel Longstreth* of Bucks county, for more particular and positive information. His knowledge of the city, well qualified him for the task; and though unexpected circumstances prevented an immediate answer, yet it has now arrived, and we present it herewith:

"The land on which the original tree stands, belonged to *Lawrence Seckel*, a distinguished and public spirited merchant of Philadelphia. His store was in Market street. For many years he was one of the managers of the Pennsylvania Hospital. He owned a row of houses on the west side of Eighth Street, from Mulberry to Filbert Street, known by the name of *Seckel's Row;* and a street in that city still bears the name of *Seckel*. It is well known that *Lawrence Seckel always spelled his name in this manner.*"

From the same source we also learn that about two years ago, JOSHUA LONGSTRETH of Philadelphia, a merchant of great respectability and distinction, in company with the Secretary of the Massachusetts Horticultural Society, paid a visit to the original tree. It stands in "The Neck" about five miles below the city, and about one mile above the confluence of the Delaware and Schuylkill rivers, on alluvial soil. One side of the trunk was decayed and gone; but the other half appeared healthy with vigorous branches well loaded with fruit. It had every mark of an ancient tree.

From *Lawrence Seckel* this property passed into the possession of the late *Stephen Girard*, and it is now held by the Corporation of Philadelphia. V.

On Draft Horses.

Among the "*Bubbles* from the Brunnens of Nassau," we observe some things well adapted to those who subsist on *solid* food; and for our present number we select a few remarks on the different methods of training horses to the draft. The writer's views are at least plausible; and if we can point the attention of judicious proprietors of teams to this subject, we shall hope that some good will be the result.

We have often witnessed the uneasy constraint which horses suffer from having their heads reined up too high; and it has appeared to us that when they find trouble enough to reach the ground with their fore feet on level roads, they must be prevented from exerting their strength in the best manner, more especially when they come to ascend a hill. But we will now introduce our author:

———"I reluctantly acknowledge that I do verily believe [the German] horses are much more scientifically harnessed, for slow, heavy draft, than ours are in England.

"Many years have now elapsed since I first observed that, somehow or other, the horses on the continent managed to pull a heavy carriage up a steep hill, or along a dead level, with greater ease to themselves than our English horses. Let any unprejudiced person attentively observe with what little apparent fatigue three small ill-conditioned animals will draw not only his own carriage, but very often that huge overgrown vehicle, the French dilligence, or the German eil-wagon, and I think he will admit that, somehow or other, there exists a mystery.

"The thing I want, if possible, to account for, is, how such small weak horses *do* manage to draw one's carriage up hill, with so much unaccountable ease to themselves.

"Now, in English, French, and German harness, there exists, as it were, three degrees of comparison in the manner in which the head of the horse is treated; for, in England, it is elevated, or borne up, by what we call the bearing rein; in France it is left as nature placed it (there being to common French harness no bearing rein); and in Germany, the head is tied down to the lower extremity of the collar, or else the collar is so made, that the animal is by it deprived of the power of raising his head.

"Now, it is undeniable that the English extreme and the German extreme cannot both be right; and, passing over for a moment the French method, which is, in fact, the state of nature, let us for a moment consider which is best, to bear a horse's head *up*, as in England, or to pull it *downwards*, as in Germany. In my humble opinion both are wrong; still there is some science in the German error: whereas in our treatment of the poor animal, we go directly against all mechanical calculation.

"In a state of nature, the wild horse, (as every-body knows) has two distinct gaits or attitudes. If man, or any still wilder beast, come suddenly upon him, up goes his head; and as he first stalks and then trots gently away, with ears erect, snorting with his nose, and proudly snuffing up the air, as if exulting in his freedom; as one fore-leg darts before the other, one sees before one a picture of doubt, astonishment, and hesitation,—all of which feelings seem to rein him, like a troop horse on his haunches; but attempt to pursue him, and the moment he defies you—the moment, determining to escape, he shakes his head, and lays himself to his work, how completely does he alter his attitude!—for then down goes his head, and from his ears to the tip of his tail, there is in his vertebræ an undulating action which seems to propel him, which works him along, and which, it is evident, you could not deprive him of, without materially diminishing his speed.

"Now, in harness, the horse has naturally the same two gaits or attitudes; and it is quite true that he can start away with a carriage, either in the one or the other; but the means by which he succeeds in this effort, the physical powers, which, in each case, he calls into action, are essentially different; for in the one attitude he works by his muscles, and in the other by his own dead, or rather living, weight. In order to grind corn, if any man were to erect a steam-engine over a fine, strong, running stream, we should all say to him, "Why do you not allow your wheel to be turned by *cold* water instead of by *hot?* Why do you not avail yourself of the *weight* of the water, instead of expending your capital in converting it into the power of steam? In short, why do you not use the simple resource which nature has presented ready made to your hand?" In the same way, the Germans might say to us, "We acknowledge a horse CAN drag a carriage by the power of his *muscles*, but why do you not allow him to drag it by his *weight?*"

"In France, and particularly in Germany, horses *do* draw by the weight; and it is to encourage them to raise up their backs, and lean downwards with their heads, that the German collars are made in the way I have described; that, with a certain degree of rude science, the horse's nose is tied to the bottom of his collar, and that the postillion at starting, speaking gently to him, allows him to get himself into a proper attitude for his draught.

"The horse, thus treated, leans against the resistance which he meets with, and his *weight* being infinitely greater than his *draught* (I mean the balance being in his favor,) the carriage follows him without much more strain or effort on his part, than if he was idly leaning his chest against his manger. It is true the flesh of his shoulders may become sore from severe pressure, but his sinews and muscles are comparatively at rest.

"Now, as a contrast to this picture of the German horse, let any one observe a pair of Eng-

lish post-horses, dragging a heavy weight up a hill, and he will at once see that the poor creatures are working by their muscles, and that it is by sinews and main strength the resistance is overcome; but how can it be otherwise? for their heads are considerably higher than nature intended them to be even in *walking* in a state of liberty, carrying nothing but themselves. The balance of their bodies is, therefore, absolutely turned *against*, instead of leaning in favor of, their draft; and thus cruelly deprived of the mechanical advantage of weight which every where else in the universe is duly appreciated, the noble spirit of our high fed horses induces them to strain and drag the carriage forward by their muscles; and if the reader will but press his hands down the back sinews of one of our stage coach or post-chaise horses, he will soon feel (though not so keenly as they do) what is the fatal consequence. It is true that, in ascending a very steep hill, an English postillion will occasionally unhook the bearing-reins of his horses; but the poor jaded creatures, trained for years to work in a false attitude, cannot, in one moment, get themselves into the scientific position which the German horses are habitually encouraged to adopt; besides this we are so sharp with our horses—we keep them so constantly on the *qui vive*, or, as we term it, in hand—that we are always driving them from the use of their weight to the application of sinews.

"That the figure and attitude of a horse working by his sinews, is infinitely prouder than when he is working by his weight, (there may exist, however, false pride among horses as well as among men,) I most readily admit; and, therefore, for carriages of luxury, where the weight bears little proportion to the powers of the two noble animals, I acknowledge that the sinews are more than sufficient for the slight labor required; but *to bear up the head of a poor horse at plough, or at any slow heavy work, is, I humbly conceive, a barbarous error, which ought not to be persisted in.*"

Seed Wheat.

We were called upon by Giles H. Holden, Esq. a day or two since, to examine a quantity of *seed wheat*, of the White Flint and Indiana varieties, which he was about packing to send to E Corning, Esq. of Albany, and are pleased to add our testimony to its being a beautiful specimen of what *Old Genesee* is susceptible of producing. We made a memorandum of the weight of the same, and found the Indiana, in a quantity of 25 measured bushels, to weigh 26½ bushels, which is an average of 64 pounds to the bushel,—and the same quantity of White Flint weighed 26 bushels, an average of 62 10-25th pounds to the bushel. Mr. Holden resides at the mouth of the Genesee River, on the shore of Lake Ontario, and has raised 1000 bushels of wheat this season which is all fit for *seed*. We recommend those who may want seed wheat to Mr. Holden, as they will be sure of obtaining a good article. [See his advertisement]

A Cure for Sore Backs of Horses.—The best way of curing sore backs is to dissolve a half an ounce of vitriol in a pint of water, and rub the injured parts with it four or five times a day. —*Sat. Courier.*

The Season.

An unprecedented drouth has been experienced in this section during the whole of the past summer. Though we have recently been favored with showers, there is still great want of rain.—The fall crops are much injured in consequence of the dry weather. Corn is coming in short—potatoes are nearly cut off,—there is but little pasturage left, and the streams are low. A correspondent has sent us the following:

"We have finally been favored with showers and rain For these we have long panted as the hart for the cooling brook. Till well nigh suffocated with dust, we have been doomed to witness the failure of all signs, from sun-dogs to inverted moon's horns and sportive night-hawks, down to chirping crickets; all *never-failing* signs, except when the times are so dry that nothing but rain itself is a sign. The withering drouth is therefore for a time suspended, and the approach of the equinox argues better things for the time to come.

"The amount of water which has fallen through the summer months for the last four years, is as follows:

Years.	June.	July.	Aug.	Amt.
1831	3.4	5.4	1.2	10 in.
1832	1.2	4.	7	5.9
1833	2.6	3.8	2.	8.4
1834	1.9	1.8	1.8	5.5

As facts are stubborn things, here is the evidence of an unusually dry summer. If, as is the common observation, nearly the same amount of water falls every year, this deficiency will be supplied before the close of autumn. The spring months, it is well recollected, were generally dry, and we believe that since the snow storm of May the ground has not been saturated with moisture.'

For the Genesee Farmer.

Geneva College.

Geneva College was established in 1825. The Rev. Mr. Potter was chosen President, D. McDonald, D. D. was appointed Professor of Greek and Latin Literature, and Horace Webster, Esq. of West Point, Professor of Mathematics and Natural Philosophy. A sufficient number of tutors was chosen to attend the classes which did not come immediately under the care of the President and Professors. For a number of years previous to the establishment of the College, an Academy had been in operation at Geneva; but in 1821, or thereabout, it was almost in its last stage of existence. It then came into the hands of the late Dr. McDonald, under whose care it rapidly rose in reputation, and instead of counting 10 or 15 students, its list numbered from 100 to 150 attending members. Such was the success of the institution that its friends determined to establish a College, and on compliance with certain conditions, a charter was obtained and the regular course of instruction commenced in September 1825.

In the establishment of any literary institution, many things are to be considered,—among which, the wants of the community deserve especial regard. Those who labored for the College saw what were these wants. They saw around them a rich country, filled with an enterprising and thriving population. Success was smiling upon the exertions of the Farmer and Mechanic, and all they seemed to want, and all they really did want, were greater facilities for educating the rising generation. True there were other Colleges, but their treasures and their honors were open only to the classical scholar. Academies were flourishing in many villages;—but an academic course is generally defective. Something more was wanted; some course which would combine the cheapness of an Academy with the superior advantages of a College. To accomplish this the plan of a parallel Engligh course was devised. This being a new movement, was rather ridiculed by some of the friends of the old practice. * * *

This department gives the student all the advantages of an English course which are offered to the regular classical scholars. In the mathematical, and indeed in all the English studies, both departments recite together; and instead of the Latin and Greek, the French and Spanish languages are taught; in one or both of which the pupils ars thoroughly drilled by an European Professor.

No institution in our country presents greater facilities for pursuing the study of Mathematics and Natural Philosophy. As the Professor of this department maintains a correspondence with the faculty of West Point, he adopts such of their most important text books as he can introduce with the greatest advantage to the students. The courseof Surveying, Mensuration, Leveling, and that part of Natural Philosophy which requires the use of instruments, is arranged for that season of the year which will admit of practice in the field, and each student then has an opportunity of testing the accuracy of his theoretical knowledge. The Mathematical recitations are heard in the philosophical room, and the uses of all scientific instruments are fully explained. Nothing connected with the subject of discussion escapes a practical illustration. It is well known how important such demonstrations are, and how accurately they will be recollected;—indeed they are as lasting as the first impressions of youths Place a youth, thus educated, in the naval or merchant service, and he will find no difficulty in using the compass or quadrant. Send him to our western lands,—the surveyor's art is as familiar to him as the practice on his father's farm. Is he destined for a mechanic? His scientific knowledge of Dynamics, and Mechanics give him a decided advantage in bringing natural agents to assist the operations of human ingenuity. How much time and money might have been saved by those who have been uselessly racking their brains to invent a system of perpetual motion, had they understood some of the simplest theorems of Hydrostatics and Pneumatics!

The College library is open to all students during term time. In addition to this there are two other valuable libraries belonging to rival debating debating societies, either of which the student can use by entering his name upon one of their lists

The very light expense of attending this institution is by no means an unimportant consideration. This is stated by the Trustees in their circular at $130 00 per annum, and this sum will cover all the necessary expenses of the student. As much more *can* be expended as a person chooses, but I have known many go creditably through the year with much less than this.

Another, and perhaps not the least consideration, which my limits will now allow me to present, is the benefit which a young man will derive

from associating with the highly refined and literary society of Geneva: and let me remark that a youth's standing here, as in other situations is in proportion to his abilities and acquirements. A mere book worm is comparatively useless to society at large,—he is known only in his study, and is generally unfit for any other place. Such men we do not want. It is as difficult for an ignoramus to pass current among philosophers, as it is for a person of mere book education to go through the world without a certain ease of manner and good breeding, which a familiarity with the customs of good society alone can confer. We want our ranks filled with men well bred as well as soundly educated,—men capable of transacting business with the distinguished persons of other countries in a correct and gentlemanlike manner. In all business much depends upon the "mudus operandi," the manner in which it is performed; and although good manners do not *make a man*, yet it must be conceded that they adorn the character of individuals and consequently raise the standard of society, Indeed I look upon this point as one of the utmost importance in the plan of an education.

I shall finish this communication by stating that no one is at liberty to infer from my remarks that I am advocating the interest of a favorite establishment. I have no other interest in Geneva College, than that which all men should have in the advancement of sound literary institutions.

A.—— Aug. 30, 1834 PERCY.

For the Genesee Farmer.

Highways---No. XXVIII.

In the revised act of the Legislature of New York respecting Highways and Bridges, I find the following particulars:

"It shall be the duty of overseers of highways in each town, to cause the NOXIOUS WEEDS on each side of the highway within their respective district, to be cut down or destroyed *twice* in each year,—once *before the first day of July* and again *before the first day of September;* and the requisite labor shall be considered highway work.

"It shall be the further duty of the overseers of highways, *once in every month* from the first of April until the first day of December,—to cause *all the* LOOSE STONES *lying on the beaten track* of every road within their respective districts, to be removed; and to cause the monuments erected or to be erected as the boundaries of highways, to be kept up and renewed, so that the extent of such roads may be publicly known." Title 1. Article first. Sections 6 and 7

This law still remains in full force; and it cannot be denied that these directions are very judicious. The destruction of NOXIOUS WEEDS in the highways, is of great importance to the adjoining farms; but the decency of the measure ought to recommend it to the particular attention of overseers. *Do they attend to it?* Very little indeed within the boundaries of my knowledge; and from observations to be made in this part of the country, I should hardly suspect that any such provisions existed.

Nothing better was ever inserted in a Road Act than that of having the LOOSE STONES frequently thrown out from the beaten track; because (if complied with) it would do more good, and add more to the pleasantness of traveling, than the same amount of labor applied in any other manner. Yet I have not seen a single district in which this requisition appears to have been remembered; and to all intents and purposes *the law is a dead letter.* Ought this state of things to continue? If the *overseers* neglect their duty, it then devolves on the *commissioners* to give especial directions "to have the highways kept in repair;" and *according to the law they cannot be in repair unless the* LOOSE STONES *are frequently thrown out.* How are the commissioners in such cases of neglect to quiet their consciences? and on what ground can they look up for popular favor, and for higher offices, till they have learned to do their duty in their present stations? VIATOR.

From the Farmer and Gardener.

Manufacturing of Silk.

We have just been visited by a gentleman from the land of perpetual improvement, who has given us the very agreeable intelligence that a machine has been put in operation in Connecticut for manufacturing Silk; which accomplishes for that article all that his countrymen, Whitney, effected by his Gin for Cotton. Every part of the operation, from the cocoon to the production of the most elegant tissue, suited to every kind of wear, such as ribbons, vests, and very superior silk for ladies' dresses, can be manufactured in this machine by the common operators in those trades, without the least difficulty. Specimens of which the gentleman presented for our inspection, had been manufactured in this machinery. The inventor, we are informed, is a young man who was brought up in a cotton factory, and subsequently learnt, and perhaps we may say he studied machine making, in the common shop attached to the factory.

There was an Englishman in the neighborhood, who had been weaving the silk raised in Connecticut, for the last eighteen years, with such an apparatus as is used in Europe for that purpose; but it appears he had caught a little of the Yankee notion, and thought his machinery might admit of improvement—he accordingly went to the young mechanic spoken of, and asked him if he could not make him something that would do better than his present looms. The young man, whose name is Gay, replied yes, he guessed he could, if he knew what he wanted. An inspection of the loom accordingly took place, and the young man went to work.

If our readers had been raised even in the center of Connecticut, we do not believe they could guess how he went to work. He did not go to other shops to see how others worked—he did not take down the Encyclopedia and count the cogs, and pinions, and teeth, represented in the plates of the machines made use of in that country, where the people presume nothing can be done in the world but by imitating them. No such thing—when this young mechanic goes to study out any new movement in machinery, he turns his eyes to the interior mechanism of his own frame—and on this occasion, instead of proceeding in the way that machinists generally would have done, he set himself down, and began to work his fingers—he observed how many movements he could perform with them, and how the inflections of the muscles operate to produce several motions, their origin, and insertion at the joints:—he then proceeded to the consideration of the wrist, the elbow, and the shoulder, and proceeded to consider all the motions that the several joints are capable of performing, until he discovered a motion which corresponded with the one he desired to apply to his machine, and then he discovered how to apply the power to produce the desired effect—thus proving that,

"The proper study of mankind is man."

This machine will cause silk to rival cotton in the list of our exportations, and that at no distant day. It has been ascertained that the raw material can be raised much cheaper than cotton, and manufactured at half the expense.

A child of fourteen years old can climb the large white mulberry trees, which are as large as a common sized appletree, and gather 75 lbs. of leaves in a day.—this is termed a day's work for a child in Connecticut. At this rate, in six weeks the child will produce 10 lbs. of silk, the reeling will be two weeks work for the same child, making eight weeks work for 10 lbs of silk, which, at $4,00 per lb. (the market price,) will be $40. But it will be remembered that this is from the white mulberry, and those of a large size. If the Morus Multicaulis be substituted, which is a shrub that may be kept from 7 to 8 feet high, and produces a leaf when at its full size 10 by 12 inches: while that of the other kind is but little larger than a dollar. It will not be too much to say, that the child can feed three times the number of worms that has been mentioned in the above calculation; and experiment has proved that the same weight of leaves will produce one-fifth more silk than the white mulberry.

Admitting this, which no one acquainted with the two kinds of mulberry tree, will be disposed to deny, and the account will stand thus:

6 weeks labor of a lad or girl,	$6
2 weeks of the same for reeling,	2
8 weeks boarding same at $1 per week,	8
	$16
Allowing the child to gather three times the quantity of leaves as of the other kind which made 10 lb. of silk,	30 lb.
1-5 to be allowed for the morus mult. above what would have been produced by the other,	6
	36 lb
At $4 per lb.	4
Total,	$144
Deduct expense of labor and board	16
Balance,	$128

It gives a balance of $128 for the labor of a child of that age for 8 weeks. We have left out of the account the rent of the land, as it would be but of small consideration, and cannot be ascertained.

We think we have said enough, (if our statements are believed) to prove our declaration, that silk will in a very few years be produced in this country to supply our own consumption, and as an article of exportation, will rival cotton in value, if not in quantity.

Before our readers pronounce upon us that word of awful import, visionary, we ask them to wait, and weigh the evidence which two years will produce on our side. We will continue to them the interesting facts as they occur to us.

The Globe of London says, the great battle of European principles, has been fought in Portugal. It was the struggle between arbitrary government and constitutional institutions, and the last have obtained a signal victory. Don Miguel was the type of despotic government on the continent. It is for this the *tories* have admired him so much. Happily for civilization he has fallen, and it is to the administration of Lord Grey we are indebted for this triumph.

DEPTH OF THE OCEAN.—One mile and sixty-six feet is the lowest depth to which the ocean has been sounded. Where the coast is rugged and high, the water is deep. All the surface covered by seas is three times greater than the dry land, being 148 millions of miles. If the medium depth of the sea be reckoned at two miles, there must consequently be 296 millions of cubical miles of water. The quantity, therefore, is sufficient to cover all the known dry land on the globe to the hight of *eight thousand feet*; and further, were all this mass of water thrown into the shape of a ball, it would be *eight hundred miles* in diameter. Philosophers of enlarged views generally believe, that the present beds of all the oceans were at a former period the habitable parts of the earth. There is no other mode of explaining the presence of such immense masses of marine productions, quite in the interior of all the continents, as are continually brought to light, than by supposing they were once covered by the sea.—*Scientific Tracts.*

From the Quarterly Journal of Agriculture.

On providing Schools for the Instruction of Farmers' Sons in the Physical Sciences.

By William Hawkins.

It is the object of this paper to recommend the establishment of schools throughout the kingdom, for teaching farmer's sons the elements of the sciences; such, for example, as Chemistry, Vegetable Physiology and Mechanics. And, in the progress of it, I shall endeavor to show, first, the usefulness of such knowledge, and then the method by which it may be generally diffused; and I think I can make out both of these points to the satisfaction of any body who will take the trouble of attending.

To prove the importance of agriculture to a community, seems very like demonstrating the advantage of having clothes to wear and food to eat. That it is indeed "the first and greatest concern of every nation, and the foundation of its prosperity in every other matter," is a truth so universally acknowledged, that it has almost obtained the currency of a proverb. But in spite of this general recognition of its supremacy, a due proportion of human ingenuity has never been directed towards the investigation of its principles. The mechanical arts have been carried to a high degree of perfection by the labor and genius of such men as Wall and Arkwright, and in every town we see rising round us institutions for the education of mechanics. But what of a similar nature, is being done for agriculture? We may look in vain for the institutions which should diffuse among practical farmers even that knowledge which already exists. The principles of agriculture may have been explored by the genius of Davy, and its practice reformed by the labors of Young, but discoveries and experiments can be useful only as far as they are known. Mr. Tennant has shown how the farmers in the neighborhood of Doncaster might have told that there was magnesia amongst their limestone, and that consequently it would be injurious to the soil; that is to say, he knew these things himself, but of what use were his experiments to the Doncaster farmers, who never heard of them, nor perhaps of him either? It is said that vaccination was known in a district in Gloucestershire before the time of Jenner, but how did that avail those who were dying of the small pox in London? The barrenness of the hills in Westmoreland will be remedied, when, not the chemists and vegetable physiologists of London or Paris, but the tenants and occupiers of those very hills shall understand its causes and its cure. At present the means of diffusing scientific knowledge amongst them is extremely limited, and the general establishment of agricultural schools would have for its object the conveyance of knowledge to where it is wanted, in a manner perfectly analagous to the ingenious contrivances by which water is conveyed from the reservoir at Islington, to the houses and inhabitants of London.

But, it may be asked, shall chemists and recluse philosophers presume to teach farmers how to farm? Is it not to be supposed, that men who have passed their whole lives in that pursuit, understand it better than any body else? Most unquestionably they do. Sir Humphrey Davy would, most likely, have made a bad farmer. There are a thousand important considerations connected with farming, of which he was probably ignorant; but still he ascertained, in a manner clearer than he had done before, the principles which regulate the application of quicklime as a manure. And it does so happen, that many of our useful discoveries have been owing to men not connected in practice to the art to which their discoveries were applicable. Arkwright was a barber, Dolland was a silk weaver. The compass, the chronometer, and the weather glass, three of the greatest helps to navigation, were all discovered by landsmen. Gunpowder is supposed to have been first found out by a monk.

Put into another shape, the possibility of progressive improvement in agriculture may be a little more palatable. The farmers in France obtain from a soil at least as fertile as ours, no more than 18 bushels of wheat per acre on an average. Is this because they have less experience or less skill and knowledge than ourselves? And if one of us should undertake the thankless task of pointing out to them their errors, he might count at being laughed at for his pains,—for presuming to know better how to farm their lands than they who have been at it for generations.

Among the many helps towards a more perfect knowledge of external nature which the mind of man has discovered in these latter days, the first place, is due, by general consent, to

CHEMISTRY.

The efforts of the farmers are chiefly directed towards making the land more fertile; and the first step in this process is to inquire in what particulars less fertile land may differ from that which is more so; to compare the two together; to find out the ingredients of each, and the proportions in which they are mixed. The knowledge how to do this is Chemistry. Arguments upon particular cases are commonly more intelligible than abstract reasoning; and it may therefore be advisable to select an instance. The following is from Sir Humphrey Davy's Agricultural Chemistry.

He says, "A soil of good apparent texture from Lincolnshire was put into my hands by Sir Joseph Banks, as remarkable for sterility. On examining it, I found that it contained sulphate of iron, and I offered the obvious remedy of top-dressing with lime, which converts the sulphate into a manure."

Now, what is the process by which, as we may suppose, Sir Humphrey Davy arrived at the knowledge that the difference between this barren soil and other soils of the same appearance, consisted in its containing sulphate of iron. By previous instruction, he had made himself acquainted with soils in general, and with their most usual ingredients, and he proceeded to test for them, one after another, until he threw in the reagent which forced the latent mischief to show itself.

For the sake of perspicuity, let us suppose, that of the many substances in nature, which may not improbably exist in a soil (and the presence of either of which would lessen its fertility) the four following are supposed to be the most probable:

1. An Alkali.
2. An Acid.
3. Magnesia.
4. Sulphate of Iron.

Any vegetable blue, such as the infusion of violets, would be a test for the first two substances. The infusion would turn green if an alkali, and red if an acid were present. The presence of magnesia would be indicated by its slightly effervescing when plunged into an acid, and by its rendering diluted nitric acid milky. If by these applications it should be decided that neither of the first three ingredients existed in the soil, the next point would be to inquire as to sulphate of iron. It might be difficult, it might perhaps be impossible, for the eye or the hand to perceive it; but, if it existed, a few drops of the infusion of galls, poured into a wine glass containing a small portion of the earth dissolved in water, would cause the mixture to turn as black as ink, and it would in fact be ink, for sulphate of iron and galls are the materials of which ink is commonly made. And all this is very easily done; it might be performed by a child. All that is required is, that a few ounces of the soil should be brought home, and, at each experiment, a teaspoonful of it put into a wine glass, and a tablespoonful of the test liquid poured upon it.

By means as simple as these, a man may tell what ingredients go to the composition of any soil that he may wish to examine; but it requires a little more trouble to ascertain the proportions in which these ingredients exist; and the barrenness of a soil may be owing to the excess or deficiency of an ingredient, not less than to its absence or presence. A chemical analysis of soil, however easy to those who have been regularly taught to conduct it, would scarcely be performed by those who had not; and few men can be brought to give these things sufficient attention after their school days are over; for which reason it is sufficiently desirable to have them taught in youth,—

"In the morning of our days, when the senses are unworn and tender, and the gloss of novelty is fresh on all the objects which surround us."

"The instruments required for the analysis of soils are few, and but little expensive. They are, a balance capable of containing about a quarter of a pound of common soil, and capable of turning, when loaded, with a grain; a set of weights from a quarter of a pound troy to a grain; a wire sieve, sufficiently course to admit a mustard seed through its apertures; an argand lamp and stand; some glass bottles; Hessian crucibles; porcelain or queen's ware; evaporating basins; a wegewood pestle and mortar; some filters, made of half a sheet of blotting paper, folded so as to contain a pint of liquid, and greased at the edges; a bone knife, and an apparatus for collecting and measuring æriform fluids."—*Agricultural Chemistry*, 146.

And a farmer need not possess all these things himself. If the proposed schools were established in every district, the apparatus, with the necessary reagents, would be kept at each school, and might be used occasionally by any body; and all he wants for most purposes would be a few acid and vegetable infusions,—a test box, in short,—with the weights, sieves, lamps and earthenware used for domestic purposes. And many very important results might be come at by these simple methods.

What can be easier to observe, whether an infusion of any kind turns vegetable blues red or not? But if it does, the infusion contains an

acid, and therefore lime, or an alkaline substance, is a good dressing for it. When a piece of paper moistened with muriatic acid, and held over the steam arising from a dunghill, gives out dense fumes, it is a certain proof that the decomposition is going too far, for it indicates that volatile alkali is disengaged.

It requires very little labor to observe, whether a soil effervesces by the action of an acid, or whether it burns when heated, or what weight is lost by the heat; and yet these simple indications may convey most valuable information concerning the ingredients of the soil.

If the whole case rested upon these instances, there would be little room to fear refutation, for they surely prove the applicability of Chemistry to agriculture—they prove that many of the causes of sterility, and consequently the appropriate remedies, may be discovered by its aid.

Not that all these instances would be applicable to all soils, but some would apply to one soil and some to another, and happy would he be whose land was so good that he could find no fault in it. And it may be repeated over and over again, in favor of chemical analysis, that all barrenness, as well as every other quality of a soil, must of necessity be owing either to the presence or absence—the excess or deficiency—of some element.

ENTOMOLOGY—THE KNOWLEDGE OF INSECTS.

The first step in proof of the utility of this science, might be to show that insects do a great deal of harm; but I shall probably be allowed to take that for granted. The destruction of the turnep crop alone is a very serious national evil. Slugs, grubs, and wireworms eat the seed in the ground, and other creeping things in the granary. Flies torment the domestic animals while alive, and blow their flesh when dead. Caterpillars eat cabbages, and moths holes in cloth. Almost every plant has its insect enemy. Clover seed is destroyed by a small weevil (*Apion flavifemoratum*;) Dutch clover by the *Apion flavipes;* peas in the pod by the small beetle (*Bruchus Granarius.*) The wireworm is the grub of the beetle (*Elater Segetis.*) The turnep fly is properly a beetle,—a little jumping beetle (*Halica nemorum.*)

The problem of course is how to destroy this legion of enemies. Now, to do this, with the greatest effect, we must watch them through all their changes. There may probably be many persons ignorant that most insects pass through four stages of existence, (of which the silk worm affords a familiar instance;) 1*st*, The egg; 2*ndly*, The caterpillar; 3*dly*, The chrysalis; and, 4*thly*, The butterfly or imago. It is in the second stage that insects generally do the most mischief. In the egg and chrysalis they do none; and in the imago, some do and some do not. Though we are all familiar with the insect in the shape in which its ravages compel our attention, we are frequently unconscious of its identity under other shapes. Though our last year's crop was destroyed by the wireworm, we should probably pass by a swarm of the parent beetle, the Elater Segetis, without being aware of the relationship; and in the same manner we look on the cockchafer, without suspecting that its issue is the grub which eats the roots of the grass. But however desirable a knowledge of entomology may be, no single individual could acquire it all for himself. He would need the eyes of Argus,—the patience of Job—and the years of Methusalem. The diligence and sagacity of men who have passed their lives in this study have at length accumulated a body of facts of the highest value; being printed, they have become the property of every body who will take the trouble to read them; and thus a school boy may learn in a few months facts which the labors of his whole life might have been vainly exerted in seeking.

Messrs. Kirby & Spence are the great authorities upon this subject, and from their book most of the facts here stated have been taken. They themselves suggest a similar application to practice of the truths of their favorite science. "With respect to noxious caterpillars in general," say they, "farmers and gardeners are not usually aware that the best mode of preventing their attacks is to destroy the female fly before she has laid her eggs; to do which, the moth proceeding from each must be first ascertained; but if their research were carried still farther, so as to enable them to distinguish the pupa, and discover its haunts, (and it would not be difficult to detect that of the greatest pest of our gardens, the cabbage butterfly,) the work might be still more effectually accomplished."

The follies committed for want of a little knowledge of entomology, are well illustrated by another passage of the same authors. "In Germany, the gardeners and country people, with great industry, gather whole baskets full of the destructive cabbage-moth (*Noctua Brassicæ,*) and then bury them—which is just as if they should endeavor to kill a crab by covering it with water—for many of them being full grown and ready to pass into their next state, which they do under ground, instead of destroying them by this manœuver, their appearing again the following year in greater numbers is actually facilitated. Yet this plan, applied to our common cabbage caterpillar, which does not go under ground, would succeed."

The process of destroying noxious insects by attacking them in their early stages is not new in this country. P. Musgrave collected the chrysalids in the spring, so as to become acquainted with them, and then employed people to catch and kill the moths and butterflies. If you catch 200 in a day you destroy 10,000 eggs, which would give 120,000 in a fortnight. Might not boys and girls be well employed in doing this? They have all the organ of destructiveness.

In short, it is abundantly evident, that if we knew them in all their changes, and know where they are concealed in autumn, winter and spring, we might exterminate these multitudes which are now as the sands upon the sea shore. And if not all the knowledge required be yet in our possession, a great deal is, and might be easily imparted to the young farmer, if we could catch *him* in his chrysalis state; and what little is still wanting would soon be accumulated when we had set so many keen and interested eyes to observe; a fly could scarcely move but they would be watching him.

THE DISEASES OF CATTLE.

This is an important subject. There is no individual of many years experience in farming, who has not suffered severe losses from the death of horses, cows, or sheep. Diseases among sheep are perhaps the most common and the most extensive, and to whom is the cure of them entrusted? Generally to a laboring man, who has not the remotest knowledge of the several organs which compose the animal frame, or of their functions, and whose education has not fitted him to reason correctly even upon the few facts which he knows. What should we think of entrusting our friends or relations in sickness to a man who had studied no more of anatomy or medicine than a shepherd? And the mischief is not confined to their ignorance of the true remedy. Ignorant men are the most irreclaimable theorists. They attribute disorders to the most fanciful cause, and then from their assumed or absurd premises, they argue away to a conclusion as hardily as a geometrician. I have heard many striking instances of this from a friend of mine, who is himself both a physician and a philosopher. One poor patient laid the blame of his sufferings upon a cause which few would have thought of. "Sir," said he, "*it is the wind meeting the digester;*" and no doubt his remedy would have been to have put some covering round the digester, to keep the wind away. Another poor fellow was troubled with a rising of the lights, and being asked whether he had taken any thing for it, "Yes," he said, "*he had swallowed some shot to keep them down.*" And I beg to assure the incredulous, that this is an extremely common disease and remedy in this neighborhood; and these are the very men who prescribe for our sheep! Formerly it was the custom to ascribe diseases to the direct operation of the devil, and of course the cure was correlavent to the assigned cause. "Touching the heart and the liver, if a devil or an evil spirit trouble any, we must make a smoke thereof before the man or the woman, and the party shall be no more vexed, and the devil shall smell it and flee away, and never come again any more." And the story goes on to say, that in Tobit's case the evil spirit fled, when he had smelt it, into the utmost parts of Egypt; but I do not suppose that this kind of fumigation would do now-a days. But, *revenons a nos montons*, or rather let us proceed to the horses, with which, indeed, the case is not much better If you send for a farrier, the message not unfrequently is, that he cannot come to see the horse to-night, but that he has sent him a drink, and will come and see him in the morning. Now, try this system by the same test; how would you like it yourself? You are suddenly attacked with a violent complaint, and you send for Sir H. Halford. He never saw you perhaps in his life, and knows nothing whatever about what is the matter with you; but he sends his compliments, and desires you to take a dose of Daffy's Elixer; and if your complaint be what is very common with horses, viz inflammation of the viscera, this dose will probably finish you, as out of all doubt it has finished many an unfortunate quadruped. Not that the absence of the farrier signifies much; he probably does not know a bit the less of the disease on that account. The study of horse-medicine and surgery, has no doubt made much greater progress than that of cows or sheep, and some of its professors are men of sense and education, as I am personally able to testify; but how few are they compared with those of an opposite character. It was said with much point

and truth, by an old physician, that in all cases of illness there were three things to consider,—the patient, the disease, and the doctor; and that if any two of them pulled well together, they would be able to beat the third. In the case I have been supposing, it is the disease and the doctor against the patient.

Cows, again, stuff themselves with cabbage, or other succulent food, which by and by ferments and gives out a great deal of carbonic acid gas; the stomach becomes distended, and if relief be not speedily afforded, the animal dies.

Many a valuable creature has perished in this way, whose life might have been saved if the owner had been chemist enough to know what would stop the fermentation, or had been provided with mechanical instruments for drawing off the gas. And these attacks are sudden,—remedies to be useful must be near. There is no time to fetch the doctor, even supposing him to be worth fetching. The owner himself must know what to do, and how to do it. It is not proposed to make every farmer an accomplished surgeon; that would be impossible; but it is not impossible, and it would not be useless, to teach him at school something of the structure and diseases of the animals on whose health his fortune depends; something of the symptoms by which those diseases are indicated, and something of the operation of the most important medicines. Being so constantly slaughtered for domestic purposes, there would never be wanting opportunities for studying their organization. The national gain, by diffusions of this sort of knowledge, would be immense. According to Mr. Colquhoun's estimate, there were in the United Kingdom, so long ago as 1812,

1,800,000 horses.
10,000,000 horned cattle.
42,000,000 sheep and lambs.

There are no tables published of sickness and mortality among quadrupeds; but out of 53,000,000, the deaths occasioned by disease in the course of a year must amount to an enormous total. In Holland, above 500,000 cattle are known to have died of disease within twenty years. At 10*l.* a piece, this would come to 250,000*l.* a year. The tenth part of one year's loss upon this article of cows alone, would be enough to put into operation throughout the whole kingdom schools, which would create ten times as much wealth annually as was lost by the death of cows. If money laid out in diffusing knowledge produced a return of only one hundred-fold, it would be certainly an eligible investment; but a hundred-fold would be little, compared with its eventual products.

(*Concluded next week.*)

Mice.—The following singular circumstance happened in the warehouse of the Dublin Custom-house, and as I had it from an eyewitness of the fact, I have no reason to doubt its authenticity. A bag of malt was hung upon the triangle from which the scales were suspended, and having remained some time, on being taken down from that situation, it was discovered that the mice had made this their granary, and many ran out, and were killed. They were left dead on the floor, and about four hours afterwards, no one having been in the warehouse during that time, there were but two or three remaining, but several live mice were seen in the room round the dead. The room was again visited in about an hour, when not a mouse, dead or alive, was to be seen. Much surprise was expressed at the sudden disappearance of the dead mice, when one of the persons present observed, that no doubt they had been buried by their companions. This occasioned a general laugh; but shortly after, on removing some reams of paper in the same room, which were placed more than six feet from the ground, in the opening between the reams was discovered a perfect cemetry, the dead mice being regularly interred, and covered with small particles of paper like a nest. Others were found in the same manner buried in piles of hides.—*Field Naturalist's Magazine.*

From the N. E. Farmer.

Culture of Rye.

If you have land of suitable quality, on which you wish to raise a valuable crop, with but little labor or expense, it may be good husbandry to sow it with winter rye. Soils of a sandy or gravelly nature are said to be the most suitable for this grain. Rye, likewise, is an excellent crop on soils, which are too rich to produce wheat. "Rye has been found very productive, when grown on a good soil, well cultivated, and merits much better treatment than it generally obtains. Farmers have discovered that it is capable of contending with bad cultivation, and an impoverished soil, and seldom allot better for it: consequently they too generally gather scanty crops."*

From the middle of August to the middle of September is said by most cultivators to be the best time for sowing rye. In the Memoirs of the New York Board of Agriculture, vol. i, p. 82, it is observed, "Rye should be sown the last week in August or the first week in September, at the rate of about thirty-six quarts per acre, some say forty-eight quarts. But if it is not sowed at that time, it ought to be delayed until late in November, so that it may not come up till Spring." A poor soil requires earlier sowing than a rich one. According to the *Farmer's Assistant*, if rye is sowed early, and the soil is in good tilth, one bushel of seed to the acre will be sufficient. For late fall sowing, or spring sowing, from a bushel and a half to two bushels to an acre will prove the proper quantity. Other things equal, the poorer the soil the more seed will be required.

A writer in the American Farmer, vol. i, p. 173, says, "the great end and the only secret in regard to insuring a good crop of rye is EARLY sowing. From the middle of August to the middle of September I have always found to be the best time for sowing rye. From three pecks to a bushel per acre is amply sufficient for seed. Early sown rye is much heavier than that which is sown later; and further it affords excellent pastures both in fall and spring, nor does pasturing injure the crop: in many cases it is a real benefit—particularly when eaten down by sheep. Clover also succeeds much better after rye than after wheat."

In England, it is sometimes the practice to sow rye for the sole purpose of making green fodder for cattle and sheep, particularly the latter in the Spring. *Bannister's Husbandry*, an English work of merit, says, "when rye is sown for sheep feed, it is proper to allow three bushels to the acre, for where the blade, haulm or stalk form the primary object, a much larger proportion of seed is requisite than when the crop is meant for harvesting." Loudon, however, observes that "Rye is sometimes sown as a green crop, with a view of affording some keep for sheep early in the spring; and also for being ploughed in as a manure; but that husbandry must be bad or unfortunate which requires recourse to either mode. In some districts it is customary to sow the head lands of wheat fields with rye, which is said to keep poultry from penetrating to the wheat." *Bartley's Husbandry*, likewise, observes that "Mr. Isaac Young, of Georgia, mixed rye amongst his seed wheat and thus escaped the blast of his wheat. It was repeatedly tried till he was convinced of its efficacy; and then he sowed five acres with *wheat, surrounded with a list of 25 feet breadth of rye;* this also succeeded; and being repeated is found a certain security to the wheat."

We will conclude this article with some notices of great crops of rye:—Ephraim Wood, Esq. of Camden, Me. sowed 5 bushels and 3 pecks of rye in September, 1822, on about 5 acres of ground newly cleared of the wood, which produced 240 bushels—over 40 bushels to the bushel sowing, and about 48 to the acre. Its being sown early and in good ground occasioned a large number of shoots to spring from one root. In the year 1827, according to the Hampshire Gazette, Linus and Dorus Graves of Hadley, Mass. had 40 acres of rye in one field, which was so stout and thick that the reaping of one fourth of an acre was considered a day's work. It was estimated that the average product would be about 35 bushels to the acre. The Newburyport Herald stated that Capt. John Sanborn of East-Kingston, Rockingham county, N. H. raised, in 1830, 357 bushels of winter rye from 7 bushels sowing, on 9½ acres of ground; being 51 bushels to the bushel sown, and about 37½ per acre. Mr Richard Adams, jr. received a premium of $20 from the Mass. Agr. Soc. for having raised in 1830, 38 bushels and 3 pecks of rye from an acre. Mr. Adams Knight, of Newbury, Mass. received a premium of $20 from the Mass. Agr. Soc. for having raised in 1832, 45 5-8 bushels of rye on an acre of ground. This rye was sown in August. Mr. Gideon Foster, of Charlestown, Mass. obtained in 1832, 38 bushels and 2 quarts of winter rye to the acre. Mr. Tristram Little, of Newbury, Mass. raised in 1832, 45 bushels and 20 quarts to the acre. Mr. N. Smith, of Roxbury, Mass. raised in 1833, 72⅛ bushels of rye on one acre and 65 rods. Mr. John Keely, of Haverhill, Mass. in 1832, raised from one acre and 13 rods, 46 bushels and 3 pecks. Mr. Richard Jaques, of Newbury, Mass. in 1833, raised 35⅞ bushels on an acre.

* Lorain.

From the New York Farmer.

Cultivation of the Hop.

Mr. Editor,—The following communication is an extract from the Horticultural Compendium, a work I am now preparing for the press, which I think will be ready by the first of January next. I shall commit the manuscripts to your opinion and those acquainted with horticulture, before they are put to the press. With the greatest respect, yours, E. Sayres.

It is very probable that this work may come into the hands of those derirous of cultivating the hop. I therefore think some observations on this branch may be acceptable, and I have the assistance of my father on this subject, who has had much practical experience in Great Britain, he being from the county of Kent in England, where hops are known to thrive better, and are manufactured equally, in regard to their being prepared for different uses, as fine ales, brown stout, porter, dyeing, &c., to any part in the known world. He has had also several years' experience in agriculture in the north-western part of the state of New-York, where he suggests that the hop might be grown to a great advantage, and with economy. I beg to quote from his letter to me on that subject. He says "The hop, so far as I have been able to observe, may be grown not only to a good account, but to good *perfection*, in America, *particularly* in the north-western parts. On spots of good deep land, lying by the windings of streams where the plough cannot conveniently be used in agriculture, adjacent the clearings of coppice wood, where poles might be obtained at very small expense, nearly the whole extent of numbers of acres might be put to that use; the small ones for the first and second years' polling, and the large ones *cut* to 16 or 18 feet, and laid on small logs in piles, with their *small* ends inwards, and covered with the branches of the pine, &c, in order to throw off the *wet*, by which they will become more durable than if used in a green state, especially the pine, if cut in the spring. After the poles have been used several years, they would serve to fence the hop garden, and *then* come to the fire, or make charcoal to dry the hops. Observe: if you would have good samples of hops come to market, which is not generally the case, the planter will require to be careful to select good varieties of plants, and not to intermix those growing wild,

which are generally late in ripening, and much more subject to the mould, and often when dried appear of a bad green, while good sorts will produce a bright yellow, and it is seldom that two or more sorts dry well together, as the green varieties will not bear the *fire-heat* until the better varieties have lost their good, and fine qualities by hanging too long. If, therefore, a planter is inclined to have more than one sort, he should be careful to plant and pick each sort separately; and it may also be remarked that some sorts of hops require much longer poles than others, so that if intermixed in planting, they would overrun those of a better quality, and weaken them in such a manner that your whole garden would soon be of an ordinary quality. In large plantations, however, it is customary to have two, three, or more varieties, that the process of *picking* may be prolonged, or rather extended to a month or more. The sorts generally preferred in the county of Kent, England, of which place we are natives, are, for early picking, the Farnham, or golden grape; for main crop, the Canterbury white; for late, the Mayfield grape or ruffler. The two last sorts require but short poles, are very hardy, enduring much wet and wind. They dry well and are generally in demand.

Planting the Hops.—In respect to the method of planting, I would prefer the distance of 7 feet from plant to plant each way, so as to give space for a free circulation of air, and to have room to work between the hills, which is a great preventive of mould or mildew, to which this country is much subjected.

If there should be an opportunity to obtain cuttings in the spring previous to the planting in the intended ground, I would take the advantage of planting them in a rich garden spot 6 inches apart; keep them clean through the summer, whilst I made a fallow of the intended spot; manure it well with good rotten dung, and sow it with turneps, which I would feed off with sheep, or draw a part of them from the ground. But the former I would recommend. The above method I have found in all cases to be an excellent preparation for hops.

One good nursery plant to a hole or hill will be sufficient. Dig out a hole one foot deep, and the same in width; fill the hole with surface earth, or compost of rotten dung and loam; trim off the fibers of the roots so that they may be planted with their roots straight down into the middle of each hill, with a spade or dibble, and close the earth well about the roots with your feet or dibble. The time of planting I would recommend is in the fall, on dry soils, and as early as the ground will work in the spring on loams, &c.

In proceeding on this subject, it will be perceived that I have taken more space than I at first suggested, it being proper to treat of the different subjects to be practiced in the management of hops, as their respective varieties, manner of planting, culture, picking, preparations for drying, the manner of drying, &c., all of which have been duly considered and written, or from practice adopted, when in a hop country.

E. S.

Gama Grass.—Our readers will recollect to have seen, in a former number of the Farmer, some account of the rapid and luxuriant growth of this species of grass. Small quantities of the seed of this grsss have been distributed among the agriculturists of several States; some of whom, from its singular shape and appearance, and from its slowness to vegetate, have entertained doubts of its being *in fact* the seed of any plant. We received from Dr. Bartlett, of Georgia, editor of the Southern Planter, not many months since, a small quantity of this seed, which was distributed among our friends. We have since learned that the unusual length of time which it requires to vegetate renders it exceedingly liable to be destroyed, when planted in the usual way; and we fear that our friends who received seed from us may fail of success in producing the plant, for the want of a knowledge of this fact. It is said to have been, in some instances, fourteen months after it was planted, in coming up.

We disposed of all the seeds we received but two in number; these were planted in a cloth with grape seeds, and kept constantly wet with water, near a stove in the kitchen, for two months, at the end of which time they were found to be sprouted.

They were then planted in a dry sandy loam, and now grow with great rapidity. Whether the plant will be of any value in our climate, remains to be tested by experience hereafter.—*Northern Farmer.*

Prices of Improved Short-Horn Cattle in England.—At the Rev. H. Berry's fourth sale of improved short-horns, on the 11th February, 1834, the following prices were obtained:

Lot 1,	2 years old,	£24	3 0
2.	Ditto	36	15 0
3.	Ditto. Bought in.. £45 bid		
4.	3 years, do. do.		
5.	3 years,	29	18 0
6.	Calf, sold with the above.		
7.	3 years,	30	9 0
8.	3 years,	38	17 0
9.	8 years,	32	12 0
10.	9 years,	26	5 0
11.	Heifer calf,	15	15 0
12.	10 years,	36	15 0
13.	10 years,	48	6 0
14.	2 years old bull,	39	18 0
15.	1 year old ditto,	45	3 0
16.	Bull calf,	15	15 0
17.	Ditto,	31	10 0
18.	Ditto, 9 weeks old,	32	11 0

[British Farmers' Magazine.]

Emigrants.—The whole number arrived at Quebec the present season, up to the 23d ult. amount to 28,526--to the same date last year 20,177---difference 8,349.

List of Subscribers

Who have paid for the 4th volume of the Genesee Farmer—continued.

Jethro Wood.	Mead Atwater.
Theodore Sedgwick.	Calen Carmalt.
Anson Hull.	Nathan A. Ramsdale

William Bennett.

Last half of Vol. 4.

W. T. Codding.	Comfort Birdseye.
James Christie	R. B. Smith.
Ansel M'Kinstry	Z. Macomber.

To July 1, 1834.

Benjamin Joy	A. Miller.

PRICES CURRENT.

ARTICLES.	PER	Sept. 6. ROCHESTER.	Sept. 1. NEW-YORK.
Ashes—Pot....	100lbs.	$3,25.....	$0,00 a 4,00
—— Pearl..	.....	3,50.....	0,00 a 4,40
Beeswax, yellow	lb.	0,16 a 0,18	21 a 22
Candles, mould	.....	0,10 a 0,11	13. a 14
—— dipped.	.....	0,09 a 0,10	11 a 12
Cloverseed.....	.....	6½.....	6 .a. 6½
Flax, American.	.....	.....	7½..a..00
Flax seed, clean	tierce	9,00a10,00	00,00 a0,00
Flour, Western.	barrel	4,50.....	5,56a 5,62
Grain, Wheat..	bushel	0,00a0,87½	0,00 a0,00
—— Rye....	.....	0,62.....	63..a..65
—— Oats...	.....	0,25..a..27	40..a..00
—— Corn...	.....	0,44.....	69..a..70
—— Barley..	.....	0,00..a..00	00..a..00
Hemp, Americ'n	ton	.....	100 a 125
Hops, 1st sort .	lb.	.....	15..a..17
Plaster Paris...	ton	6,00 a 0,00	2,00 a2,25
Beef, Mess....	barrel	0,00 a10,00	9,12 a9,75
—— Prime....	.....	0,00 a 8,00	5,75 a 6,00
Pork, Mess....	.....	14,00a15,00	13,25a14,00
—— Prime....	.....	11,00	9,00a10,00
—— in the hog.	100lbs.	4,00.....	....
Tallow.....	.....	7,50 a 8,00	6,50 a 6,75
Hay.....	ton	7,00 a 0,00	9,00a11,20
Apples.....	bushel	50..a..100	.....

Meteorological Table,

KEPT AT ROCHESTER, FOR AUGUST, 1834.

	10 A. M.				10 P. M.			
Days.	therm.	barometer.	winds	sky	therm.	barometer.	winds.	sky
1	70	9,55	W	fair *a*	70	29,50	N E	fair *f*
2	7[illegible]	29,55	N E	do	7[illegible]	29,55	N E	do
3	74	29,60	N E	do	74	29,60	S W	do
4	78	[illegible],60	S W	do	82	29,55	S E	do *g*
5	78	29,55	N E	do	7[illegible]	29,50	N	do
6	80	29,55	N	do	80	29,50	N	do
7	84	29,45	N W	do	[illegible]	29,40	N E	cloudy *h*
8	82	29,40	N E	loudy *b*	82	29,40	W	fair
9	80	29,35	W	fair	82	29,30	W	do
10	82	29,35	S W	do	82	29,35	W	cloudy *i*
11	80	9,45	S W	do	8[illegible]	29,15	S W	do
12	80	29,25	S W	cloudy *c*	80	29,30	N W	do *j*
13	7[illegible]	29,50	N	fair	74	29,45	N	fair
14	78	29,30	S W	do	77	29,30	N W	do
15	78	29,30	N W	cloudy *d*	70	9,50	N W	do
16	72	9,60	N E	fair	72	29,55	N	do *k*
17	70	29,55	S W	cloudy	70	29,30	S E	do *l*
18	70	29,50	N W	fair	72	29,55	N E	do
19	69	29,55	N E	do	72	29,50	N E	do
20	70	29,55	N E	do	68	29,50	N E	do
21	75	9,50	N E	do	70	29,50	S W	do
22	78	29,50	N	do	70	29,50	S W	do
23	75	29,50	S W	doe	78	29,45	W	do
24	70	29,50	W	loudy	72	29,60	N W	do
25	7[illegible]	29,65	N E	fair	64	29,60	N W	do
26	74	29,60	N E	do	58	29,55	S	do
27	7[illegible]	9,65	S	do	58	29,65	N	do
28	65	29,65	W	do	59	29,60	N E	do
29	74	29,55	W	do	68	29,55	N E	do
30	7[illegible]	29,55	S W	do	68	29,55	S W	cloudy *m*
31	75	9,55	S W	do	75	29,55	N W	fair

Mean daily temp. 73°—press. 29.50—rain 1 8 10 inch.

a rain at night—*b* 4 10 rain—*c* showers—*d* high winds, cool and small showers—*e* great drouth—*f* early apples—*g* 84° 2 P. M.—*h* 90° 2 P. M., thunder showers—*i* thunder showers—*j* high winds—*k* spring water 59°—*l* one case cholera *m* [illegible] under showers, 3 10 rain

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ELECTION NOTICE.

Sheriff's Office, Rochester, August 14, 1834.

A GENERAL Election is to be held in the county of Monroe on the 3d, 4th, and 5th days of November next, at which will be chosen the officers mentioned in the notice from the Secratary of State, of which a copy is annexed.

E. M. PARSONS, Sheriff of the county of Monroe.

State of New-York, Secretary's Ofeice, *Albany, Aug.* 1, 1834.

Sir—I hereby give notice that at the next General Election, which is ts be held on the 3d, 4th and 5th days of November next, a Governor and Lieutenant Governor are to be elected.

Notice is also given that two Senators are to be chosen in the Eighth Senate District, one in place of Trumbull Cary, whose term of service will expire on the last day of December next, and the other in the place of John Birdsall, resigned, whose term of service will expire on the last day of December, 1835.

JOHN A. DIX, *Secretary of State.*

To the Sheriff of the county of Monroe.

N. B.—The Inspectors of Election in the several towns in your county will give notice of the election of a Representative to Congress from the Twenty-eighth Congressional District; also for the choice of Members of Assembly, and for filling any vacancies in County offices that may exist.

☞ All public newspapers in this county will publish the above, and send their bills to the Sheriff the county. aug 16.

Valuabl Books for Farmers.

FOR SALE BY HOYT & PORTER, ROCHESTER.

BROWNE's Sylvia Americana, or a description of the Forest Trees indigenous to the United States, practically and botanically considered, illustrated with more than 100 engravings. Price $2 50.

Manual of a Naturalist, with directions for preserving subjects of natural history. Price 50 cts.

Mason, Lawrence, Hind and Barnum's Treatises on the Disease of Horses.

For the Genesee Farmer.

Last Words of Keats.

BY W. H. C. H.

"I feel the daisies growing over me!"—*Keats.*

"These birds of Paradise but long to flee
Back to their native mansion."—*Dante.*

My breaking heart no longer clings
To aught beneath the sky,
And I am well aware the springs
Of life are nearly dry.
The blighted flowers of Hope will bloom
No more within my breast,
And fervently within the tomb
I wish to be at rest.
Each pulse will soon forget to beat—
Ere long the snowy winding sheet
This body will invest.

Ah! deeply rooted is disease
In this decaying frame;
One pang of agony the breeze
Of Rome can never tame!
This anguished heart is bleeeding now
From wounds no leech can heal;
The King of Terrors on my brow
Will early set his seal.
Upon my cheek the hectic feeds,
And growing over me, the weeds
And daisies I can feel.

I shall not fondly wake again
This broken lyre of mine,
Nor long, upon a couch of pain,
A breathing corpse recline.
For me, since life hath lost its charms,
No terror hath the grave;
A dreamless sleep within thine arms,
Of thee, O Death, I crave!
When ended is my journey drear,
I wildly wish above my bier
No sable plume to wave.

To blossoms blighted and unblown
Resemblance bear my lays;
Carve not on my sepulchral stone
One vapid line of praise!
Kind Severn!* when my lips are dumb,
And rayless is mine eye,
These words my marble will become—
"*Here, here the ashes lie*
Of one who was unknown to Fame—
In water written was his name—
Beholder, quell the sigh!"

A Poetical Gem.—The following lines are from the Album of the hotel in the vicinity of the Falls of Niagara:—

NIAGARA.

Flow on for ever, in thy glorious robe
Of terror and of beauty. God hath set
His rainbow on thy forehead, and the cloud
Manties around thy feet. And he doth give
Thy voice of thunder, power to speak of him
Eternally, bidding the lip of man
Keep silence, and upon thy rocky altar pour
Incense of sweet praise.

(Signed) Lydia H. Sigourney.
Tuesday evening, Aug. 5th, 1834.

A few Thoughts for Those who

THINK.

Respiration is the scientific name of the process of breathing, or drawing air into the lungs, and expelling it again. "A full grown person," says some of the papers, "who respires twenty times a minute, inhales each time 40 cubic inches of air, which is 48,000 solid inches in an hour, or 1,152,000 cubic inches in a day; a quantity equal to nearly 70 hogsheads."

The room in which I sit, is a chamber of modern size, say 15 feet square, and 7 1-2 high. At the above rate, a person would respire once, all the air in it, in about 2 1-2 days; or twelve persons, in five hours. But twelve persons cannot breathe in a *close* room with safety, till the air has all been breathed once over. The whole becomes in a degree impure from mixture, long before. Besides, the bad air is heavier than the other air, and is most abundant in the lower part of the room.

I have seen many a school-room, not larger than this, with forty children seated in it. If shut up closely, and the room air tight, I think they would breathe the whole over, as high as their heads, in about fifty minutes. It happens, however, that rooms—school-rooms especially—are not thus air tight.

Perspiration.—"Keil, by a very accurate se of experiments, ascertained that in his own person he perspired thirty-one ounces in twenty-four hours. Hales, by experiments equally accurate, determined that a sun flower of the weight of three pounds only, throws off twenty-two ounces in the same period of time, or nearly half its own weight."

But what is *perspiration?* Plain as the answer to the question may be, to a portion of the community, it is not understood at all by many. Some attach no definite idea to the term. Others seeing the word "experiments," and several *figures* in the same connection, conclude at once, that it is something tedious or difficult, or perhaps beyond their comprehension, and pass over it. Others still have no idea that a person *perspires* at all, except when that profuse discharge takes place from the vessels, commonly known by the name *sweating.*

Now sweating is only an increased and *profuse* discharge from the vessels, at the surface of the skin, of the same fluid which is passing off, so long as we are in health, at every moment of our lives. If we sit near a white wall in a hot summer's day, with the sun shining both on us and the wall, we may see the shadow of masses of vapor ascending like smoke on the wall. Or take a looking glass and hold it within about an inch of the body or limbs of a person, and you will soon find it dimmed by moisture. That this effect is not produced by our breathing is plain because if we hold our breath, or place the mirror opposite our back, the same result follows.

The truth is that every square inch of the surface of the human body—except perhaps the eye balls, nails, &c. has in it thousands, (probably tens of thousands) of small holes, or pores, from which, so long as we are in health, a vapor more or less abundant according to circumstances, is constantly issuing. To check this moisture—let it be done by what means it may—and let it remain checked for a considerable time, produces mischief. Sometimes the evil appears in the form of what we call colds; at others rheumatisms, fevers, and consumptions. To *increase* it very greatly, for any considerable time, so that a person is said to sweat *profusely*, unless done for the purpose of removing disease which already exists, is also injurious in the end.

But perspiration may be checked or rendered profuse, in a great many ways. Some of these may be pointed out hereafter, as well as the manner in which such effects operate to produce dangerous diseases. I do not believe all adult persons in health ought to perspire as *much* in twenty-fous hours as Keil says he did. Still they ought to *perspire* at all times, and in *considerable* quantity; and whether the pores of the skin are stopped by dirt, or by uncleanly garments, or by great cold or heat, or by sudden chills, the consequences in time may be equally dreadful.—*People's Magazine.*

A word to the wasteful.—The young are not only sometimes wasteful of other good things, but of time also. Some always say, "There is time enough yet:" so because there is another day coming, they will be idle to-day. Such persons should remember that to them, another day in this world may never come.

The World.—The world which a young man figures to himself smooth and quiet as the lake in the valley, he will find a sea foaming with tempest and broiling with whirlpools;—he will be sometimes overwhelmed by the waves of violence, and sometimes dashed against the rocks of treachery. Amid wrongs and feuds, competition and anxieties, he will wish a thousand times for scenes of quiet; and willingly quit hope to be free from fear.

* "Mr. Severn was a valuable and attached friend of the poet; they went first to Naples, and thence journeyed to Rome—where Keats closed his eyes on the world, on the 24th of February, 1821. He wished ardently for death before it came."

Seed Wheat.

THE subscriber having taken great pains to procure the most approved varieties of Wheat, and having been very particular to have his fields cleared of foul seed by weeding, and by means of a seed screen will separate all the light or imperfect grain, leaving only the full grown and perfect berry, warranted entirely free from smut, offers to the farming public about 1000 bushels of his own raising, consisting of the following varieties, viz:

Indiana, white berry,
White Flint, do. do.
Mud, do do. a species of White Flint, thrashes easy and endures the winter remarkably.
Beaver Dam, red berry, does well on light land.
White bearded, do. succeeds well sown late, after corn.

The subscriber will furnish the above kinds, delivered at any Port on Lake Ontario, or at any place on the canal, according to order, (bags or barrels furnished if requested,) subject to cost and charges.

N. B. Any other kinds of Wheat produced in this country, will be furnished if requested.

G. H. HOLDEN.
Charlotte, Aug. 20, 1834. aug 22

Axtell's Portable Patent Cast

IRON THRASHING MACHINE & HORSE POWER.

THE above Machine and Power can be seen at the Court-House Yard, or opposite E. & H. Lyon's Woolen Factory, near Kempshall & Bush's Furnace. The Power is entirely cast iron, also the Machine with the exception of the covering to the Machine and staves in the cylinder which the teeth are set into. There are upwards of 40 of the above Machines in operation in Ontario county and vicinity, and take the preference of any manufactured in that quarter. It is useless to state the good properties of the Machine, as there has been so much deception heretofore practiced by Thrashing Machine makers, but if persons wishing to purchase would call and examine, we think they can be satisfied that it is preferable to any kind yet in use.

They have been thoroughly tested, having been used for upwards of a year.

Application for information to *Kempshall & Bush*, few doors north of Eagle Tavern, State-st. or *Stephen Clark*, at Monroe House, on Buffalo-st.

DE GRAFF & TOWNSEND.
Rochester, N. Y. Aug. 29, 1834.

AXTELL'S *Cast Iron Horse Power and Thrashing Machine*, has been used in thrashing one day by my hands for the purpose of exhibiting it. It was drawn by two horses and two oxen, the oxen drawing singly. It was no more than moderate work for them. The Power and Machine appeared to operate well; full as well, and in some respects better, than any I have seen in operation. I did not examine the straw or wheat after thrashing. At the rate it was used when in operation it would, if that rate had been continued all day, have thrashed 300 bushels, and probably more. I know of no reason to suspect that the wheat was not thrashed clean, or that it was cut or broken—it is not fanned. The persons in my employ thought the Machine and Power altogether superior to any other Machine in use in this quarter. SELLECK BOUGHTON.
Rochester, N. Y. Aug. 29, 1834.

This may certify that I have used AXTELL'S *Patent Cast Iron Thrashing Machine and Horse Power*, and can say it will thrash faster and with more ease for the horses than any other machine I have seen. I thrashed, when I first operated it, sixty bushels wheat in one hour and a half, without urging the horses any faster than I should naturally drive during the day. The Machine does not break the wheat, and thrashes clean, and I had no difficulty of any part of Power or Machine breaking.

I have seen quite a number of different kinds of Thrashing Machines operated, and I give the above Machine and Power the preference over any I have yet seen. BARNARD M. HOWARD.
Brockport, Aug. 22, 1834.

We are well acquainted with Mr. Howard, and know him to be a farmer of the first respectability, and believe what he states above to be correct.

ROBY, GOOLD & Co.
Brockport, Aug. 22, 1834. sept 3-rf4t